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Substitute Specification

METHOD FOR SOFT-PROGRAMMING AN ELECTRICALLY ERASABLE  
NONVOLATILE MEMORY DEVICE, AND AN ELECTRICALLY ERASABLE  
NONVOLATILE MEMORY DEVICE IMPLEMENTING THE  
SOFT-PROGRAMMING METHOD

5 BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a method for soft-programming an electrically erasable nonvolatile memory device and to an electrically erasable nonvolatile memory device implementing the soft-programming method.

10 Description of the Related Art

As is known, nonvolatile memories comprise a memory array formed by memory cells arranged in rows and columns, in which wordlines connect gate terminals of memory cells arranged on the same row and bitlines connect drain terminals of memory cells arranged on the same column.

15 It is likewise known that in a nonvolatile floating-gate memory cell the storage of a logic state is carried out by programming the threshold voltage of the memory cell through the definition of the quantity of electrical charge stored in the floating-gate region.

According to the information stored, the memory cells are  
20 distinguished into erased memory cells (logic state stored "1"), in which no electrical charge is stored in the floating-gate region, and in written or programmed memory cells (logic state stored "0"), in which there is stored in the floating-gate region an electrical charge sufficient to determine a sensible increase in the threshold voltage of the memory cells.

25 In nonvolatile memories, moreover, the memory array is generally divided into sectors, each one of which is formed by a set of memory cells on